

ZOOLOGY.—*A new family of millipeds on Barro Colorado Island, Canal Zone.*

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(Received May 16, 1958)

On June 6, 1923, the writer accompanied the late Dr. O. F. Cook, of the U. S. Department of Agriculture, on a visit of several hours to Barro Colorado Island, in the Canal Zone, for the purpose of seeing that newly designated wildlife preserve, studying a few of its palms, and collecting millipeds. A number of the latter were found, and in identifying them some months later in the United States a single female was noted that appeared to belong to one of the families, of the order Merocheta, whose members are capable of rolling themselves into a near perfect sphere when disturbed. Closer inspection, however, revealed characters that seemed to prohibit its inclusion in any of the known families, and it was put aside to await collection of additional specimens, especially males, so that its classification might be more exact.

In the years that followed, attempts were made through written and oral appeals to scientists stationed or visiting in the Canal Zone to have the species recollected, but these failed. However, in the spring of 1958 the writer and his wife were able to spend a week collecting on Barro Colorado, and some additional time elsewhere in the Canal Zone and in several Panamanian localities. In spite of the very dry conditions encountered nearly everywhere, fair numbers of millipeds were found, among them being two immature specimens of the desired form, discovered by Mrs. Loomis in a decaying palm inflorescence on the ground near the Shannon Trail on Barro Colorado. While these two specimens, together with the original female, may not form the best material on which to base a new family, its characters are readily seen and are so distinctive it cannot be confused with any previously established family. Accordingly, a description of it is presented.

Dorsoporidae, n. fam.

Description.—Body small, strongly convex, about four times as long as broad, smooth and

shining and capable of being tightly rolled; its sides vertical, with lateral carinae produced downward but an even shorter distance than are those of the Cyclodesmidae.

Head hispid below the vertex; labrum broad, with margin straight and having the usual three median teeth; antennae rather stout and subclavate.

First segment trapezoidal; second segment much larger than any other, of the shape of the third segment in the family Cyclodesmidae; ensuing segments without a sulcus crossing the dorsum but with a distinct longitudinal sulcus separating the lateral carinae from the dorsum; pores in normal sequence, opening high on the sides of the dorsum and far removed from the lateral carinae; segments without a supplementary margin; last segment short and broad but not as broad as the margin of the penultimate segment on either side of it; lateral carinae of segments 5 to 14 with a tuberclelike process projecting downward from near the middle of the inner surface, its apex separated from the carina wall by a deep sinus into which the margin of the next carina appears to fit when the body is rolled.

The most striking character of this new family, and one which will instantly identify it, is the presence of repugnatorial pores in normal sequence, not on the lateral carinae, as in any other family of the order having pores, but high on the sides of the dorsum itself.

It is doubtful if the systematic position of the family can be determined until males are examined. On other characters, the enlarged second segment, associated with the presence of repugnatorial pores, might indicate relationship with the Oniscodesmidae, but in that family the segments are divided into two sections by a transverse sulcus that is not indicated in the Dorsoporidae and the lateral carinae are very oblique, extend much further from the body and support the pores. The smooth, strongly convex dorsum without a transverse sulcus across the segments, vertical sides and rather small, descending lateral carinae are characters common to the Cyclodesmidae and the Dorsoporidae but the presence of pores; carinae separated from the

dorsum by a sulcus; and the second segment being enlarged, rather than the third, distinguish the latter family.

Dorsoporus, n. gen.

Genotype: *Dorsoporus barroensis*, n. sp.

Description.—Body relatively broad and capable of being rolled into a compact ball; dorsum strongly convex with vertical sides; surface smooth and shining.

Head hispid from the labrum to the upper limits of the antennal sockets above which it is smooth and shining; median groove of the vertex very faint; antennae rather stout, subclavate, hispid; joints 2, 3, 5, and 6 subequal in length with joint 4 shorter.

First segment trapezoidal; anterior margin with a raised rim; posterior margin simple, somewhat shorter and overlapping the anterior margin of the second segment between the lateral lobes; lateral margins oblique, nearly straight.

Second segment greatly expanded on the sides in front and below, similar in appearance to the third segment of *Cyclodesmus*, obscuring the head and some of the first segment in lateral view (Fig. 1).

Ensuating segments, including the penultimate, without a transverse sulcus or supplementary

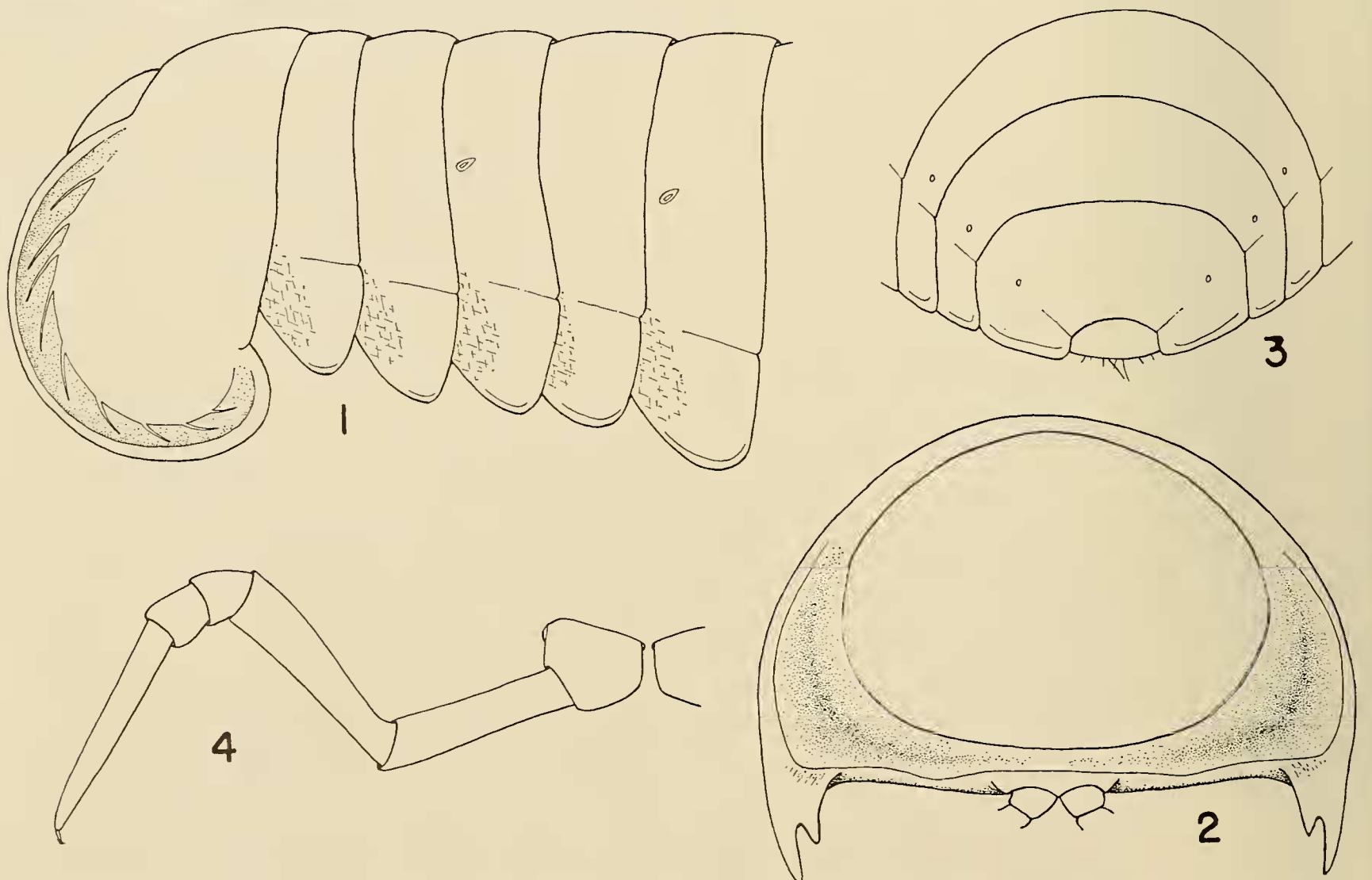
margin but with lateral carinae separated from the dorsum by a distinct sulcus extending forward from a small notch located in the posterior margin far below the line of the pores; lateral carinae of segments 5 to 14 each with a descending process elevated from the surface on the inner side near the middle, as shown in Fig. 2, and in the sinus formed between the carina and the process the edge of the carina of the next segment rests when the body is rolled.

Pores arranged in normal sequence, beginning on segment 5 and ending on segment 19, but placed high on the sides of the body, far above the lateral carinae although approaching them on segments 18 and 19.

Last segment rather small, transverse, not as broad as the carinae of the penultimate segment, the margin nearly straight and simple (Fig. 3).

Legs long and very slender, capable of reaching well beyond the sides of the body; joints 2, 3 and 6 subequal in length, each about double the length of joints 4 and 5 combined; sterna very narrow (Fig. 4).

Males unknown; females with the ventral surface of the third segment developed behind the legs into a conspicuous triangular lobe projecting over the sternum of the next pair of legs.



FIGS. 1-4.—*Dorsoporus barroensis*, n. gen. and n. sp.: 1, Lateral view of segments 1 to 7; 2, anterior view of segment 12; 3, segments 17 to 20 from behind; 4, first leg of segment 6.

Dorsoporus barroensis, n. sp.

One female (type) collected June 6, 1923, by O. F. Cook and H. F. Loomis, and two immature specimens (paratypes) collected March 16, 1958, by E. M. and H. F. Loomis, all on Barro Colorado Island, C. Z. These specimens deposited in the U. S. National Museum.

Description.—Length of mature female 6 mm, width 1.5 mm.

Head moderately thickly beset with stiff, erect hairs of medium length from the upper limits of the antennal sockets to the labrum; vertex smooth but with a median groove faintly impressed; antennae gradually thickened from the base to the end of the fifth joint, the joints after the first finely hispid, the sixth joint with 2 very long hairs near the distal end; joints 2, 3, 5, and 6 of about equal length, joint 4 slightly shorter.

First segment transverse, trapezoidal, nearly twice as broad as long; anterior margin considerably longer than the posterior margin, paralleling it and with a raised rim; posterior margin overlapping the front margin of segment 2; anterior lateral angles rather sharply rounded, the posterior ones broadly rounded.

Second segment greatly enlarged, each side produced forward and downward; posterior margin with a definite notch just above the expanded portion on each side; sides of the segment with a raised rim extending from opposite the posterior angle of segment 1 to the notch in the back margin; behind this rim is a broad, concave channel into which project, obliquely downward, long, narrow extensions of the higher surface behind the channel.

Anterior lateral surface of the segments after the second noticeably reticulated on the portion which is hidden beneath the segment in front, when the body is rolled.

Pores and lateral carinae as previously described except that reduced processes are present inside the carinae of segments 3 and 4 but lack the sinus found on ensuing segments.

Last segment relatively small as compared with the penultimate one and not as broad as its carinae; twice as broad as long, the posterior margin slightly rounded and with 7 to 8 setae; anal valves flattened but with raised margins; preanal scale large, over half as long as wide and rounded-triangular.

To produce and multiply endlessly, without ever reaching the last possibility of excellence, and without committing herself to any end, is the law of Nature.—

JOHN BURROUGHS.